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1. A method to eliminate downstream flux leakage from a perpendicular magnetic writer, comprising:

providing a magnetic yoke having first and second non-parallel parts, said first part terminating as a downstream shield having a planar lower surface;

providing a conductive coil that surrounds said yoke;

providing a main pole having first and second ends;

the first end of the main pole being in magnetic contact with the magnetic yoke's second part, extending therefrom so that its second end is a perpendicular write pole having a bottom surface that is coplanar with said downstream shield lower surface;

said downstream shield being spaced a first distance from said write pole;

providing a read head shield located upstream from said write pole;

inserting an upstream shield between the write pole and the read head shield, said upstream shield being spaced a second distance from the write pole; and

magnetically connecting said upstream and downstream shields by means of side shields located on opposing sides of the write pole.

2. The method described in claim 1 wherein said first distance, between said downstream shield and said write pole, is between about 0.03 and 0.2 microns.

3. The method described in claim 1 wherein said second distance, between said upstream shield and said write pole, is between about 0.1 and 1 microns.

4. The method described in claim 1 wherein upstream leakage outside said side shields is less than about 10 %.

5. The method described in claim 1 wherein downstream leakage outside said side shields is less than about 10 %.

6. The method described in claim 1 wherein said write pole can safely provide a write field of up to about 12 kOe.

7. The method described in claim 1 wherein said side shields are between about 0.05 and 0.2 microns from said write pole.

8. The method described in claim 1 wherein said side shields are between about 0.1 and 5 microns wide.

9. The method described in claim 1 wherein said side shields have bottom surfaces that are coplanar with said write pole bottom surface.

10. A method to eliminate downstream flux leakage from a perpendicular magnetic writer, comprising:

providing a magnetic yoke having first and second non-parallel parts, said first part

terminating as a downstream shield having a planar lower surface;

providing a conductive coil that surrounds said yoke;

providing a main pole having first and second ends;

the first end of the main pole being in magnetic contact with the magnetic yoke's second part, extending therefrom so that its second end is a perpendicular write pole having a bottom surface that is coplanar with said downstream shield lower surface;

said downstream shield being spaced a first distance from said write pole;

providing a read head shield located upstream from said write pole;

inserting an upstream shield between the write pole and the read head shield, said upstream shield being spaced a second distance from the write pole; and

attaching to said downstream shield side shields, located on opposing sides of the write pole and having a thickness of at least 0.1 microns, that extend from said downstream shield to within 1 micron of said upstream shield.

11. The method described in claim 10 wherein said first distance, between said downstream shield and said write pole, is between about 0.03 and 0.2 microns.

12. The method described in claim 10 wherein said second distance, between said upstream shield and said write pole, is between about 0.1 and 1 microns.

13. The method described in claim 10 wherein upstream leakage outside said side

shields is less than about 10 %.

14. The method described in claim 10 wherein downstream leakage outside said side shields is less than about 10 %.

15. The method described in claim 10 wherein said write pole can safely provide a write field of up to about 12 kOe.

16. The method described in claim 10 wherein said side shields are between about 0.05 and 0.2 microns from said write pole.

17. The method described in claim 10 wherein said side shields are between about 0.1 and 1 microns wide.

18. The method described in claim 10 wherein said side shields have bottom surfaces that are coplanar with said write pole bottom surface.

19. A perpendicular magnetic writer, comprising:

a magnetic yoke having first and second non-parallel parts, said first part terminating as a downstream shield having a planar lower surface;

a conductive coil that surrounds said yoke;

a main pole having first and second ends;

the first end of the main pole being in magnetic contact with the magnetic yoke's second part, extending therefrom so that its second end is a perpendicular write pole having a bottom surface that is coplanar with said downstream shield lower surface;

said downstream shield being spaced a first distance from said write pole;

a read head shield located upstream from said write pole;

an upstream shield between the write pole and the read head shield, said upstream shield being spaced a second distance from the write pole; and

side shields, on opposing sides of the write pole, that magnetically connect said upstream and downstream shields.

20. The magnetic writer described in claim 19 wherein said first distance, between said downstream shield and said write pole, is between about 0.03 and 0.2 microns.

21. The magnetic writer described in claim 19 wherein said second distance, between said upstream shield and said write pole, is between about 0.1 and 1 microns.

22. The magnetic writer described in claim 19 wherein upstream leakage outside said side shields is less than about 10 %.

23. The magnetic writer described in claim 19 wherein downstream leakage outside

said side shields is less than about 10 %.

24. The magnetic writer described in claim 19 wherein said write pole can safely provide a write field of up to about 12 kOe.

25. The magnetic writer described in claim 19 wherein said side shields are between about 0.05 and 0.2 microns from said write pole.

26. The magnetic writer described in claim 19 wherein said side shields are between about 0.1 and 5 microns wide.

27. The magnetic writer described in claim 19 wherein said side shields have bottom surfaces that are coplanar with said write pole bottom surface.

28. A perpendicular magnetic writer, comprising:

a magnetic yoke having first and second non-parallel parts, said first part terminating as a downstream shield having a planar lower surface;

a conductive coil that surrounds said yoke;

a main pole having first and second ends;

the first end of the main pole being in magnetic contact with the magnetic yoke's second part, extending therefrom so that its second end is a perpendicular write pole

having a bottom surface that is coplanar with said downstream shield lower surface;

said downstream shield being spaced a first distance from said write pole;

a read head shield located upstream from said write pole;

an upstream shield between the write pole and the read head shield, said upstream shield being spaced a second distance from the write pole; and

attached to said downstream shield, side shields, located on opposing sides of the write pole and having a thickness of at least 0.1 microns, that extend from said downstream shield to within 1 microns of said upstream shield.

29. The magnetic writer described in claim 28 wherein said first distance, between said downstream shield and said write pole, is between about 0.03 and 0.2 microns.

30. The magnetic writer described in claim 28 wherein said second distance, between said upstream shield and said write pole, is between about 0.1 and 1 microns.

31. The magnetic writer described in claim 28 wherein upstream leakage outside said side shields is less than about 10 %.

32. The magnetic writer described in claim 28 wherein downstream leakage outside said side shields is less than about 10 %.

33. The magnetic writer described in claim 28 wherein said write pole can safely provide a write field of up to about 12 kOe.

34. The magnetic writer described in claim 28 wherein said side shields are between about 0.05 and 0.2 microns from said write pole.

35. The magnetic writer described in claim 28 wherein said side shields are between about 0.1 and 5 microns wide.

36. The magnetic writer described in claim 28 wherein said side shields have bottom surfaces that are coplanar with said write pole bottom surface.